IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) Photo-sensitive element for electro-optical sensors, comprising at least:

a photo-sensitive reception means,

a current conversion circuit to convert the current generated by said photo-sensitive reception means into a voltage signal at a photosensitive node, and

an amplification and reading circuit,

wherein said current conversion circuit comprises at least a P-channel first transistor ~~able to be used~~ for operating as an ideal switch and ~~to be~~ driven by a voltage which is variable between a high voltage and a low voltage, said photo-sensitive element being able to be taken to a reset state if the driving voltage of said transistor is low, and to an integration state if said driving voltage is high,

wherein said current conversion circuit comprises at least two transistors having opposite channel polarities to provide both linear conversion and logarithmic conversion capability, wherein said at least two transistors comprising said first P-channel ~~type~~ transistor and at least a second N-channel ~~type~~ transistor, said first and second transistors having one between their source or drain terminal in common with each other and connected to said photosensitive node and their gate terminals ~~able to be driven~~ drivable externally by means of a voltage of a variable value to selectively allow either a linear conversion or a logarithmic conversion of said current photo-generated by said reception means, and

wherein said second N-channel ~~type~~ transistor is able to represent an active load.

2. (Cancelled).

3. (Cancelled).

4. (Currently Amended) Photo-sensitive element as in claim 1, wherein the number of second N-channel ~~type~~ transistors is variable from 1 to 12, in order to increase by a corresponding factor the logarithmic conversion gain of said current photo-generated by said photo-sensitive reception means.

5. (Previously presented) Photo-sensitive element as in claim 1, wherein said amplification and reading circuit comprises at least a third transistor suitable to make a first amplification of the signal and a fourth transistor to connect the photo-sensitive element to a signal transmission line.

6. (Currently Amended) Photo-sensitive element as in claim 5, wherein said photo-sensitive reception means consists of an inversely polarized N-type diode,

the third and the fourth ~~transistor~~ transistors are ~~of the~~ N-channel ~~type~~ transistors.

7. (Cancelled).

8. (Previously presented) Photo-sensitive element as in claim 15, wherein said fourth transistor is able to be selectively enabled to allow the signal relating to the photo-sensitive

element selected to be read at any moment whatsoever.

9. (Previously presented) Photo-sensitive element as in claim 1, wherein the photo sensitive element is able to detect the light of a wavelength of between 400 and 1000 nm and an intensity varying in a range of at least 8 decades, between 10^{-5} and 10^{3} W/m^{2}.

10. (Cancelled).

11. (Cancelled).

12. Currently Amended) Photo-sensitive element as in claim 1, wherein the photo sensitive element it is able to be entirely integratable ~~integrated~~ into a silicon substrate of limited size, to achieve a microchip.

13. (Previously Presented) Photo-sensitive element as in claim 1, wherein the photo sensitive element is able to constitute a cell of a linear or matrix multiple cell sensor.

14. (Currently Amended) Photo-sensitive element as in claim 5, wherein said photo-sensitive reception means comprises an inversely polarized N-type diode, the second, the third and the fourth ~~transistor~~ transistors are ~~of the~~ N-channel ~~type~~ transistors and the first transistor is ~~of the~~ a P-channel ~~type~~ transistor.

15. (Currently Amended) Photo-sensitive element for electro-optical sensors, comprising at least:

a photo-sensitive reception means,

a current conversion circuit to convert the current generated by said photo-sensitive reception means into a voltage signal at a photo-sensitive reception means into a voltage signal at a photosensitive node, and

an amplification and reading circuit,

wherein said current conversion circuit comprises at least two transistors having opposite channel polarities, said at least two transistors comprising a first transistor and a second transistor, said first transistor comprising an N-channel first transistor ~~able to be used~~ for operating as an ideal switch and ~~to be driven~~ drivable by a voltage which is variable between a high voltage and a low voltage, said photo-sensitive element being able to be taken to a reset state if the driving voltage of said first transistor is high, and to an integration state if said driving voltage is low, ~~wherein said current conversion circuit further comprises at least~~ said second transistor comprising a P-channel second transistor to provide in conjunction with said N-channel first transistor both linear conversion and logarithmic conversion capability,

said first and second transistors having one between the respective source or drain terminal in common with each other and connected to said photosensitive node, and their gate terminals able to be driven externally by means of a voltage of a variable value to selectively allow either a linear conversion or a logarithmic conversion of said current photo-generated by said reception means, wherein said second P-channel transistor is able to represent an active load.

16. (Previously presented) Photo-sensitive element as in claim 15, wherein said amplification and reading circuit comprises at least a third transistor suitable to make a first amplification of the signal and a fourth transistor to connect the photo-sensitive element to a signal transmission line.

17. (Currently Amended) Photo-sensitive element as in claim 16, wherein said photo-sensitive reception means comprises an inversely polarized P-type diode, and the third and the fourth transistors are ~~of the~~ P-channel ~~type~~ transistors.

18. (Currently amended) Photo-sensitive element as in claim 1, wherein the photo sensitive element [[it]] is able to be entirely integrated into a silicon substrate of limited size, to achieve a microchip.

19. (Previously presented) Photo-sensitive element as in claim 1, wherein the photo sensitive element is able to constitute a cell of a linear or matrix multiple cell sensor.